

**Dr. Duke's Phytochemical and Ethnobotanical Databases**

**List of Plants for SAPONINS**

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Achillea millefolium</i>	Leaf				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
<i>Aesculus hippocastanum</i>	Seed	55000.0	280000.0	3.4837614172571465	--
<i>Allium ampeloprasum</i>	Plant				--
<i>Allium cepa</i>	Bulb				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
<i>Allium sativum</i> var. <i>sativum</i>	Bulb	350.0	1200.0		LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. Garlic-The Science and therapeutic application of <i>Allium sativum</i> L. and related species. Williams & Wilkins, Baltimore. 329 pp.
<i>Aloe vera</i>	Plant				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
<i>Althaea officinalis</i>	Root				--
<i>Anemarrhena asphodeloides</i>	Rhizome		60000.0	-1.0	--
<i>Anredera baselloides</i>	Plant				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
<i>Avena sativa</i>	Seed	1000.0	13000.0	-0.3206748989657371	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
<i>Beta vulgaris</i>	Root		58000.0	0.10991363498738571	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
<i>Bixa orellana</i>	Seed		475.0	-0.49914143402450717	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
<i>Borago officinalis</i>	Leaf				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
<i>Broussonetia papyrifera</i>	Fruit		5000.0		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Capsella bursa-pastoris</i>	Plant				--
<i>Centella asiatica</i>	Leaf	268.0	2500.0	-1.0907412926645894	--
<i>Chamaelirium luteum</i>	Plant				--
<i>Chamissoa altissima</i>	Leaf				Tramil
<i>Chenopodium ambrosioides</i>	Root		25000.0	-0.545236603114766	--
<i>Cicer arietinum</i>	Seed	2300.0	60000.0	0.3490198832907256	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
<i>Crataegus rhipidophylla</i>	Fruit				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
<i>Crataegus monogyna</i>	Fruit				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
<i>Crataegus laevigata</i>	Fruit				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
<i>Digitalis purpurea</i>	Seed		10000.0	-0.36342137442891553	--
<i>Eleutherococcus senticosus</i>	Plant				--
<i>Ephedra gerardiana</i>	Plant				--
<i>Galega officinalis</i>	Flower				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
<i>Glycine max</i>	Seed	5600.0	56000.0	0.2920245826731543	--
<i>Glycyrrhiza uralensis</i>	Root	60000.0	140000.0	1.7378627114836418	Chemical Constituents of Oriental Herbs (3 diff. books)
<i>Glycyrrhiza glabra</i>	Root	20000.0	150000.0	1.936393086666112	--
<i>Gnaphalium viscosum</i>	Shoot				Tramil
<i>Guatteria discolor</i>	Bark				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Hamamelis virginiana</i>	Leaf				--
<i>Heimia salicifolia</i>	Plant				--
<i>Hemidesmus indicus</i>	Root				--
<i>Kalanchoe gastonis-bonnieri</i>	Leaf				Tramil
<i>Lens culinaris</i>	Seed	1100.0	5100.0	-0.43324061768544037	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
<i>Lepidium meyenii</i>	Root				--
<i>Marrubium vulgare</i>	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
<i>Medicago sativa</i>	Sprout Seedling	1100.0	80000.0		--
<i>Medicago sativa</i>	Seed		3000.0	-0.46316315050966533	--
<i>Medicago sativa</i>	Plant	5000.0	20000.0		--
<i>Melilotus alba</i>	Root		12000.0	-0.8033260908519773	--
<i>Melilotus officinalis</i>	Leaf				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
<i>Mercurialis annua</i>	Root	18000.0	22500.0	-0.5948691969103835	--
<i>Mitchella repens</i>	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Mucuna pruriens</i>	Seed		21000.0	-0.2066842977305945	--
<i>Ocimum tenuiflorum</i>	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Ocimum sanctum</i>	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Panax japonicus</i>	Rhizome		70000.0	1.0	--
<i>Panax ginseng</i>	Stem	16000.0	40000.0		--
<i>Panax quinquefolius</i>	Root				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Panax ginseng	Leaf		128000.0	1.3249298643249272	--
Panax ginseng	Shoot				--
Panax quinquefolius	Leaf				--
Panax quinquefolius	Flower				--
Panax ginseng	Flower		69000.0		--
Panax ginseng	Root		20000.0	-0.6445017907060011	--
Paullinia cupana	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
Phaseolus vulgaris	Seed	2000.0	21000.0	-0.2066842977305945	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
Phyllanthus niruri	Plant				Tramil
Platycodon grandiflorum	Root		20000.0	-0.6445017907060011	--
Polygala senega	Root	20000.0	100000.0	0.9437412107537609	--
Polygala penaea	Root				Tramil
Portulaca oleracea	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Pseudelephantopus spicatus (juss.) gleason	Plant				Tramil
Quillaja saponaria	Bark	90000.0	100000.0		--
Ruscus aculeatus	Plant				--
Ruscus aculeatus	Root	1208.0	4600.0	-0.9502385684870053	--
Sansevieria trifasciata	Plant				--
Sesamum indicum	Seed		3000.0	-0.46316315050966533	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
Spinacia oleracea	Leaf		47000.0	-0.23418857166033838	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Stellaria media</i>	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
<i>Strophanthus hispidus</i>	Seed				--
<i>Tagetes lucida</i>	Plant				Tramil
<i>Thespesia populnea</i>	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Thymus vulgaris</i>	Plant				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
<i>Trichilia hirta</i>	Leaf				Tramil
<i>Trichosanthes kirilowii</i>	Root				--
<i>Trigonella foenum-graecum</i>	Seed	2800.0	15000.0	-0.29217724865695144	--
<i>Verbascum thapsus</i>	Plant				--
<i>Vicia faba</i>	Seed		3500.0	-0.4560387379324689	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
<i>Vigna radiata</i>	Seed	500.0	6000.0	-0.42041667504648683	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
<i>Viola odorata</i>	Root	1000.0	25000.0	-0.545236603114766	--
<i>Yucca brevifolia</i>	Plant				--